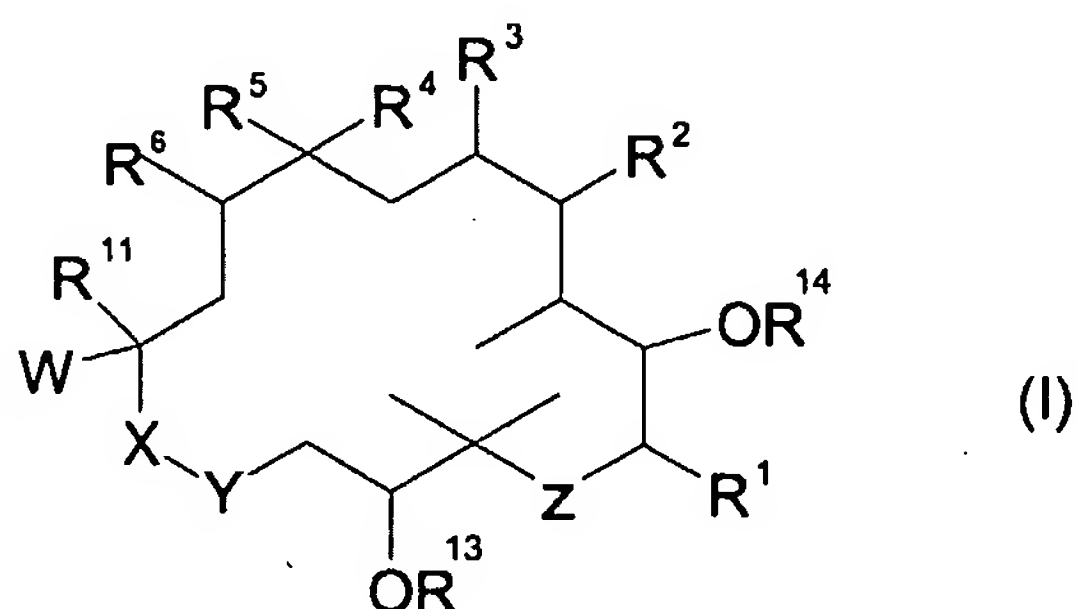


CLAIMS

1. Use of at least one epothilone or derivative thereof as an active ingredient for manufacturing a medicament for use in the treatment of disease(s) involving a neuronal connectivity defect.

5 2. Use of at least one epothilone or derivative thereof as an active ingredient for manufacturing a medicament for use in the treatment of schizophrenia or autism.

3. Use according to claim 1 or 2, wherein the epothilone is a compound of formula (I):



10 wherein:

- R¹ represents H, alkyl, alkenyl or alkynyl in C₁-C₆, aryl in C₆-C₁₀, aralkyl in C₇-C₁₅,

- R², R³ represents each H or form together C=C double bond,

15 - R⁴ represents H, C₁-C₆-alkyl in particular CH₃, fluoro substituted C₁-C₆ alkyl in particular CF₃ or CFH₂,

- R⁵ and R⁶ form a C=C double bond or a three membered ring including O, S, NR⁷, CR⁸R⁹ with R⁷ being C(O)R¹⁰, SO₂R¹⁰ and R⁸, R⁹, R¹⁰ being independently H, halogen, C₁-C₆ alkyl, C₆-C₁₀ aryl, C₇-C₁₅ alkaryl,

- R¹¹ being H, C₁-C₆ alkyl, C₆-C₁₀ aryl, C₇-C₁₅ alkaryl, and in particular H,

20 - W represents C(R¹²)=CH, C(R¹²)=C(CH₃), C(R¹²)=CF or a bicyclic aromatic/heteroaromatic radical preferably a 2-methylbenzothiazol-5-yl radical, or a 2-methylbenzoxazol-5-yl radical or a quinolin-7-yl radical, with R¹² representing a heteroaromatic radical, preferably a 2-pyridinyl, a 2-substituted thiazol-4-yl or a 2-substituted oxazol-4-yl radical with substitution in 2-position by C₁-C₆ alkyl,

pseudohalogen like CN or N₃, S-C₁-C₄-alkyl, O-C₁-C₆-alkyl, or C₁-C₆-alkyl substituted by OH, amino, halogen, pseudohalogen such as -NCO, -NCS, -N₃, O-(C₁-C₆)-acyl, O-(C₁-C₆)-alkyl or O-benzoyl,

- X-Y represents O-C(=O), O-CH₂, CH₂-O, CH₂-C(=O),

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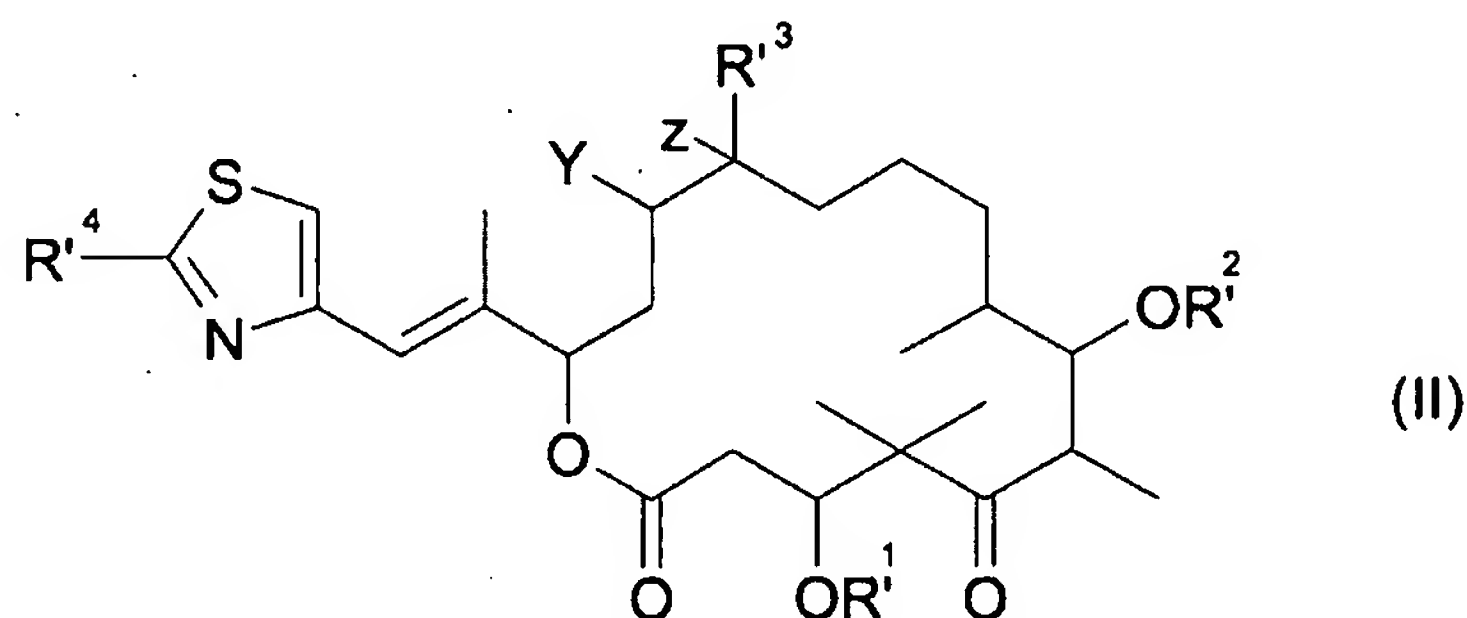
- Z represents C=O, S, S=O, SO₂,

- R¹³ and R¹⁴ represents independently from each other H, C₁-C₆-alkyl, (CO)R¹⁵ or C_{1,4}-trialkylsilyl, with R¹⁵ being H, C₁-C₆-alkyl, fluoro substituted C₁-C₆-alkyl,

and pharmaceutically acceptable salts thereof.

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4. Use according to any one of claims 1 to 3, wherein the epothilone is a derivative of following formula (II):



wherein:

- R⁴ represents an C₁-C₆ alkyl or substituted C₁-C₆ alkyl with substituents as F, Cl, Br or I, pseudohalogen, such as -NCO, -NCS, -N₃, NH₂, OH, O-(C₁-C₆)-acyl, O-(C₁-C₆)-alkyl or O-benzoyl,

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- R¹ and R² are independently from each other H, C₁-C₆-alkyl, (CO)R⁵ with R⁵ being H, C₁-C₆-alkyl, C₁-C₆-fluoroalkyl or C_{1,4}-trialkylsilyl,

- R³ represents H, C₁-C₆-alkyl, halogen substituted C₁-C₆-alkyl, and

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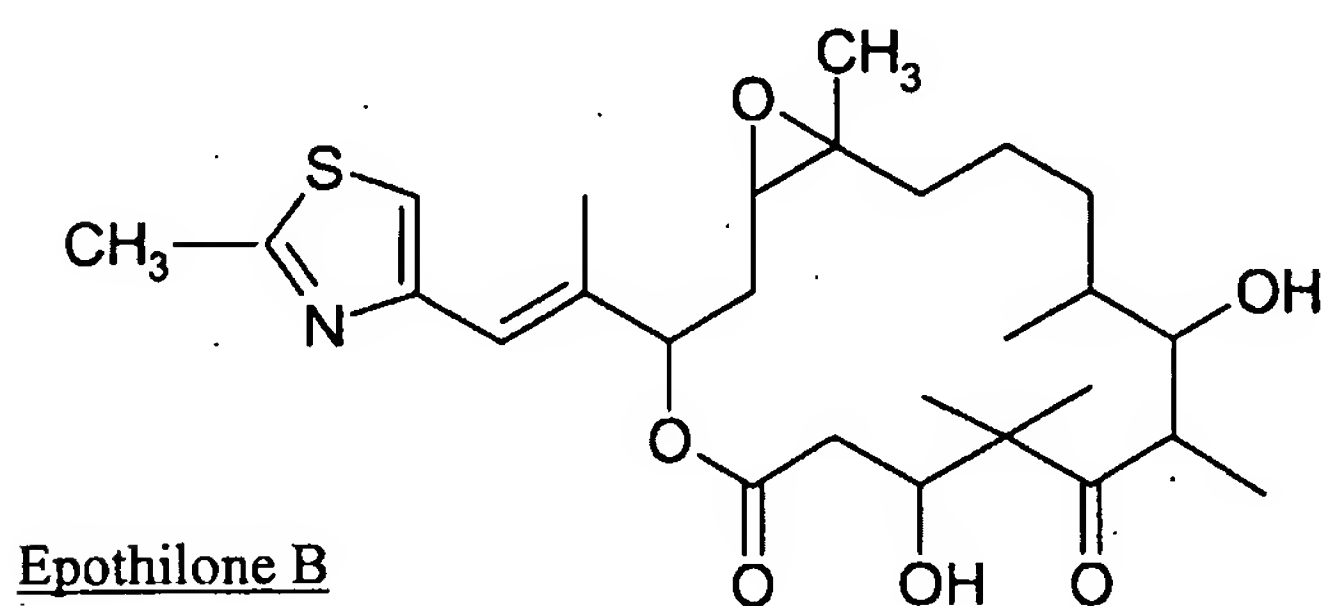
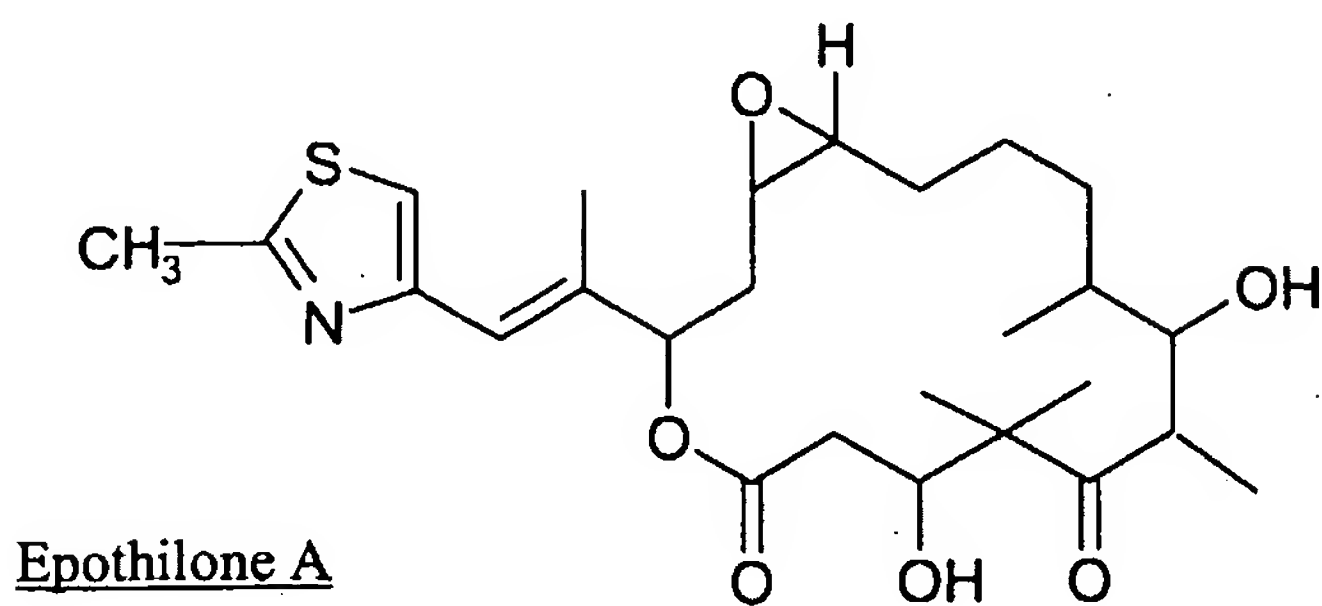
- Y and Z form either a C=C double bond or are the O atom of an epoxide

and pharmaceutically acceptable salts thereof.

5. Use according to claim 4, wherein the epothilone is at least a derivative of formula (II) wherein R¹, R², R³ represents independently from each other, H, C₁-C₆-alkyl in particular CH₃, C₁-C₆ fluoroalkyl in particular CF₃ and Y and Z form either a C=C double bond or are together the O atom of an epoxide.

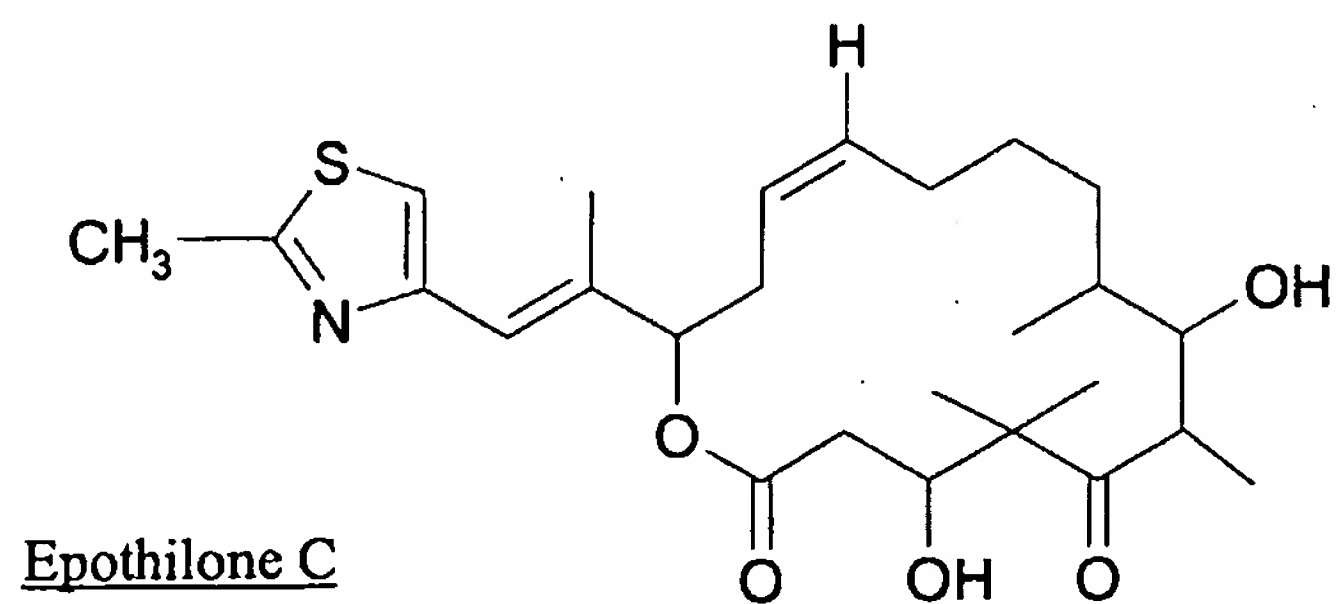
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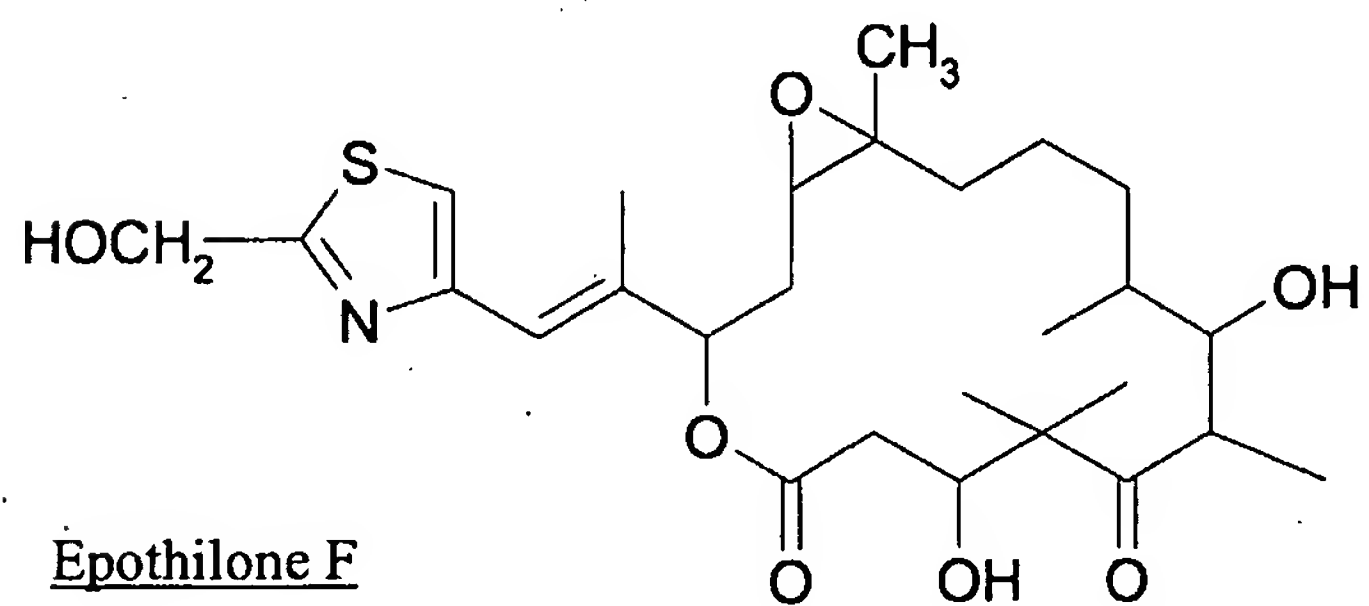
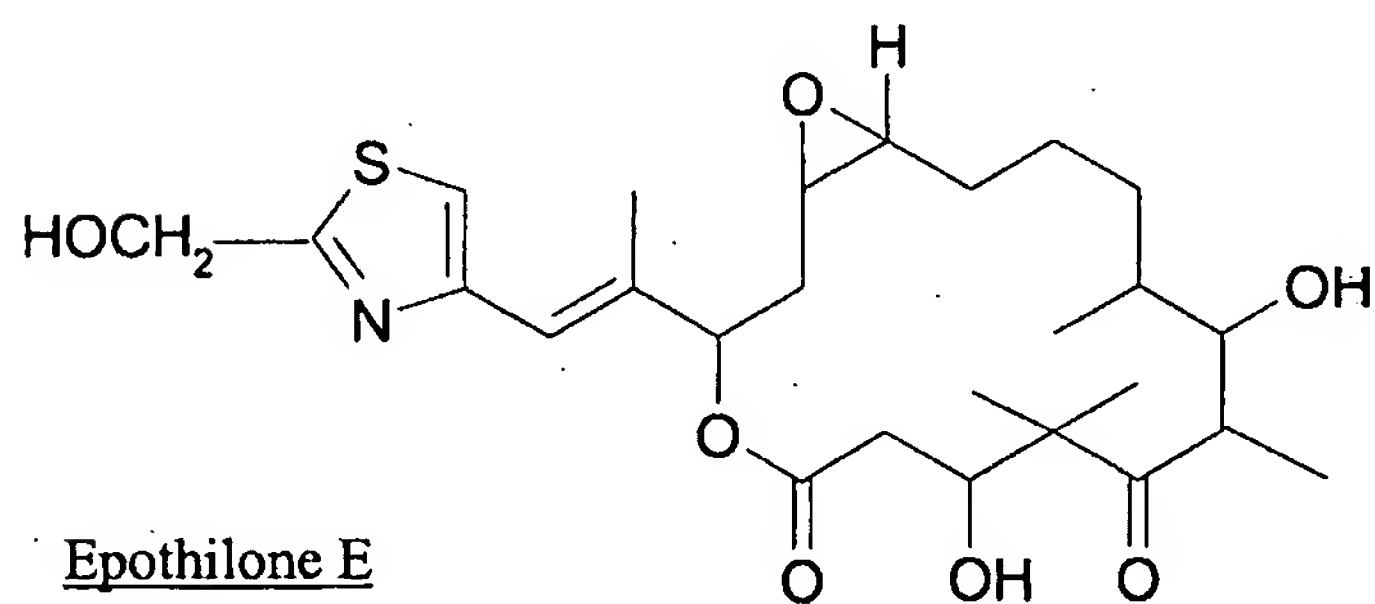
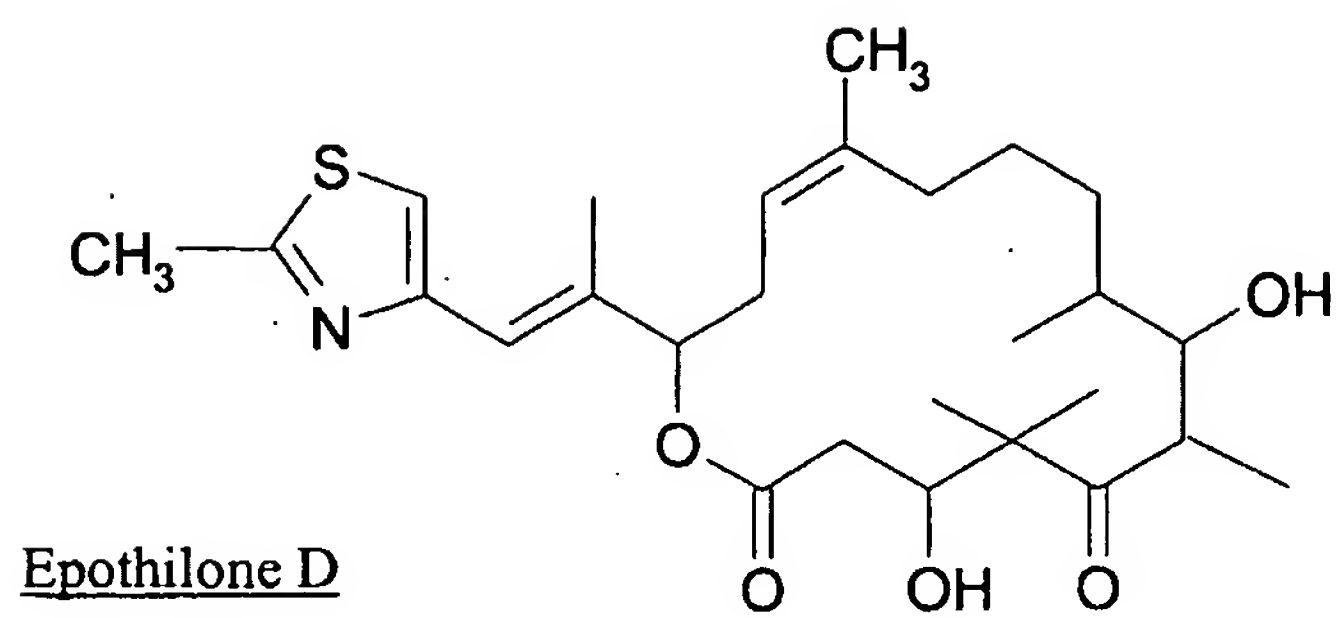
6. Use according to any one of claims 1 to 5, wherein epothilone includes at least the natural epothilone A or B of following formula:



5 or a pharmaceutically acceptable salt thereof.

7. Use according to any one of claims 1 to 6, wherein epothilone includes at least one synthetic epothilone C, D, E or F of following formula:

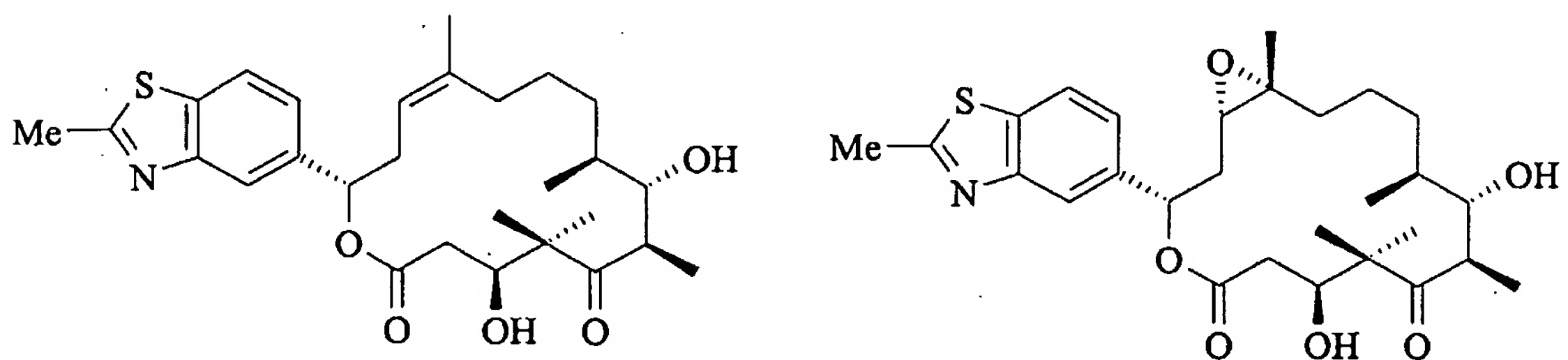




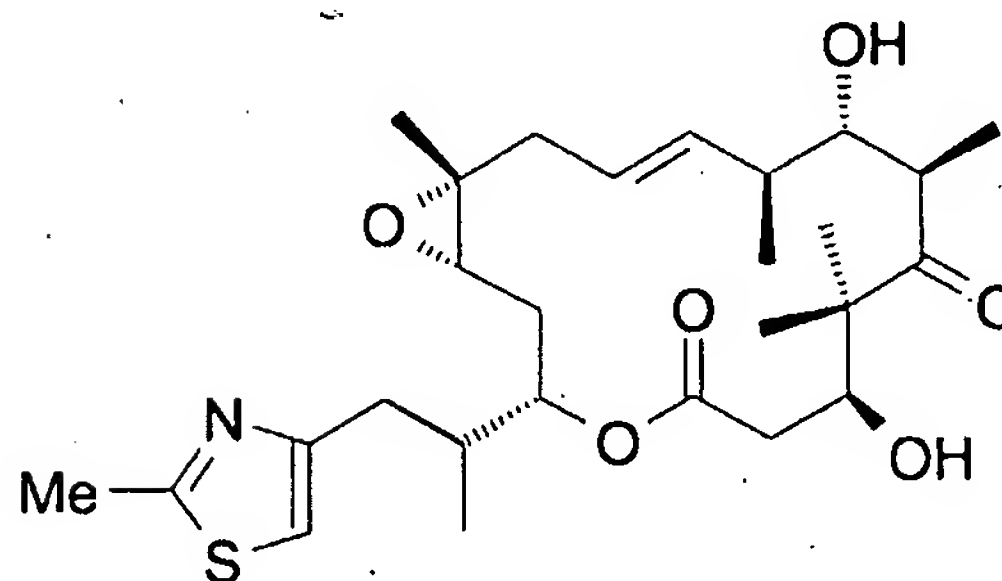
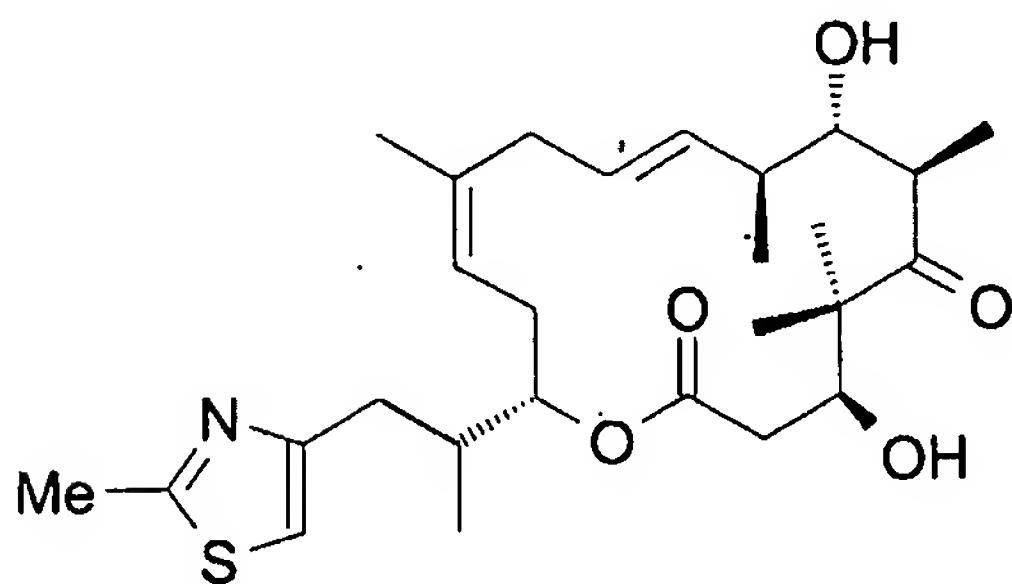
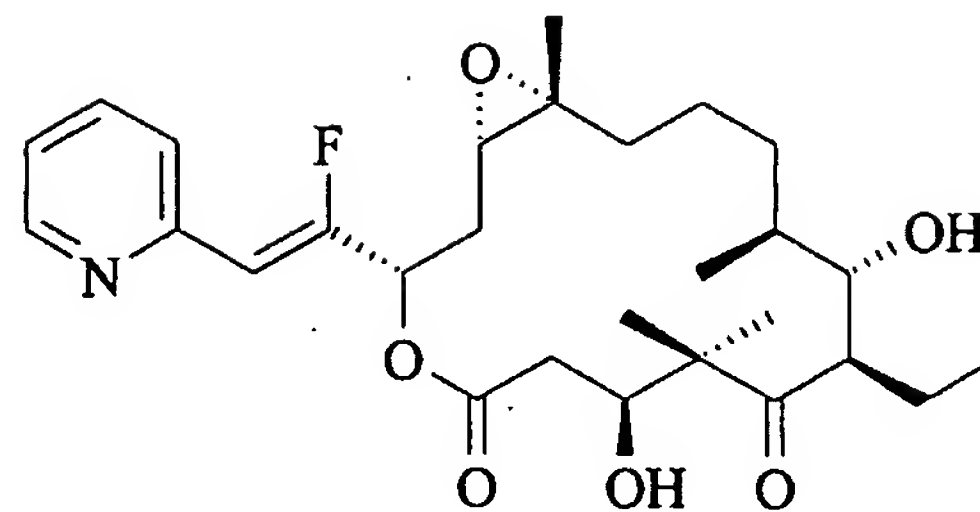
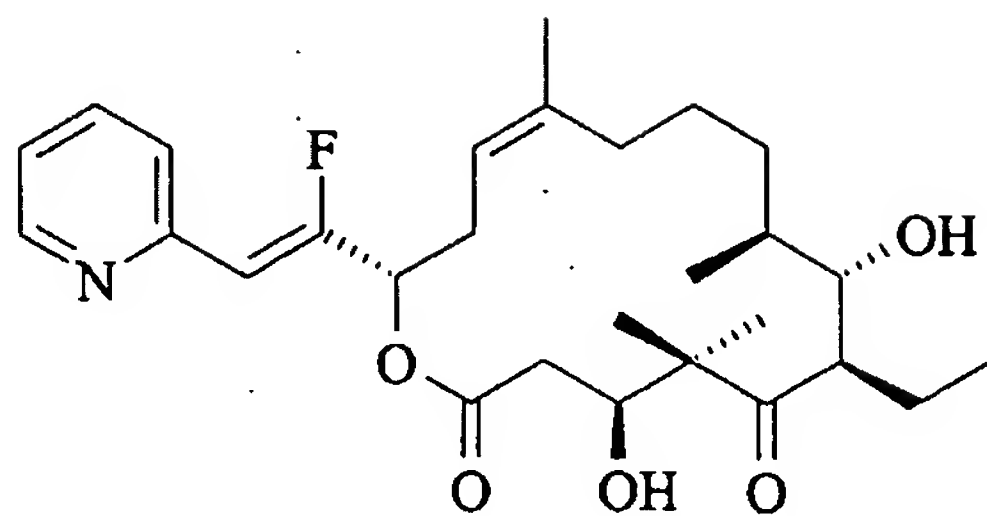
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in particular epothilone D and pharmaceutically acceptable salts thereof.

8. Use according to any one of claims 1 to 7, wherein epothilone includes at least one synthetic epothilone of following formula:



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9. Use according to any one of claims 1 to 8, wherein the epothilone(s) is used at a therapeutically effective amount from about 0.01/Kg/dose to about 100 mg/Kg/dose.

10. Method of treatment of a disease involving a neuronal connectivity defect comprising administering to an individual in need thereof a therapeutic effective amount of one epothilone or derivative thereof.

11. Method of treatment of a disease involving a neuronal connectivity defect comprising administering to an individual a therapeutically effective amount of at least one epothilone or derivative thereof in a pharmaceutical composition comprising at least a pharmaceutically acceptable carrier.

12. Method according to claim 10 or 11, wherein the disease includes a psychotic or psychiatric disorder.

13. Method according to any one of claims from 10 to 12, wherein the epothilone or pharmaceutical compositions thereof is administered in combination with one or more agents useful in preventing or treating psychotic or psychiatric disorders.

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14. Method according to any one of claims from 10 to 13, wherein the epothilone is as defined in claims 3 to 9.